YGET

X

AN EVALUATION OF THE BASIC FOUR DIVISION OF MANAGEMENT ASSISTANCE INC.

Prepared For:

GENERAL ELECTRIC COMPANY

OCTOBER 25, 1983

INPUT

NJ Y-GET
1983

AUTHOR

An Evaluation of the Basic Four

TITLE

Division of MAI

DATE LOANED	BORROWER'S NAME

CAT. No. 23-108 PRINTED IN U. S. A.

I. INTRODUCTION

- The research contained in this report was prepared for the exclusive use of General Electric, in response to the contract received by INPUT on October 3, dated September 29, 1983.

- The object of the study was to obtain specific information on the Basic Four Division of Management Assistance Inc. (MAI) and to determine on a best-efforts basis the detail solicited by the GE work statement provided in Appendix A.

- The sources for this information were:

  - INPUT library files.

  - Interviews with present and former employees at Basic Four.

  - Interviews with personnel of computer vendors of hardware and software that would be competitive to Basic Four and prospects of Basic Four.

- In all cases no attempt was made to access proprietary files or information sources but only to gather data freely available to the public. The "added value" of the INPUT study was to synthesize many data sources.

- In order to be as precise as possible as to the reliability of the data provided to GE, information is graded as follows:

  - (Grade I) - Very reliable (i.e., substantiated data).

  - (Grade II) - Reliable (i.e., generally believed to be valid).

  - (Grade III) - Best available (i.e., unsubstantiated).

Digitized by the Internet Archive
in 2015

https://archive.org/details/evaluationofbasiunse

- The report tries to reflect the recent changes in Basic Four products, organization, sales methods and support capabilities to the extent possible.

- GE may, for a period of 30 days starting from the receipt of this report, consult with INPUT at no extra cost on the contents of this report.

II. ANALYSIS OF BASIC FOUR REVENUE

A. OVERVIEW (GRADE I)

- The Basic Four business of MAI consists of the activities of the organizational units shown in Exhibit II-1.

- Revenue for Basic Four equipment and software is reported by the Basic Four Information Systems Division and the MAI International Corporation.

- Revenue from software developed by the other two corporations shown in Exhibit I, is reported together with hardware revenue by the Basic Four Information Systems Division.

  - The software revenue is obtained from business fees for the operating system, application software packages for certain industries and an office management, automation software package.

  - Application software packages and custom programming are also sold by distributors or other firms together with Basic Four hardware.

- Exhibit II-2 provides an overview of Basic Four personnel.

B. REVENUE MIX (GRADE I-III)

- Exhibit II-3 reviews the revenues of Basic Four and the division of revenue into domestic and international components (Grade I).

- MAI points out that fluctuations in international exchange rates had an impact of about 4% on 1982 results (Grade I).

- The revenue from hardware sales amounts to over 95% of the total revenues of Basic Four in comparison to software sales (Grade III).

- During 1982, Basic Four began moves to generate more software revenue, and revenue for software is increasing.

EXHIBIT II-1

RELATION OF MAI UNITS INVOLVED WITH BASIC FOUR

UNIT NAME	COMPOSED OF	REVENUE CONTRIBUTION
Basic Four Information Systems Division	Four Regional Sales Offices and 40 District Offices (Domestic) Relations with about 40 Distributors (Domestic) Manufacturing Facilities	Basic Four Revenue (100%)
MAI Applications Software Corporation	Development Office In Irvine, CA; handles software for operating systems, larger computers in product line and Office Management System	Revenue is realized by Basic Four Info. Systems Division
MAI/Basic Four Business Products	Development Office in Albuquerque; handles software	

EXHIBIT II-2

BASIC FOUR PERSONNEL

AREA	PERSONNEL 9/83
Field Sales Force	210
Support and Administration in Field	200
Manufacturing	800
Application Software (in software corporations)	100
R&D including system software	400
Domestic Total	1,700
International (separate but all its revenue is reported as Basic Four revenue:	
Sales	335
Other (manufacturing and support)	over 1,000

EXHIBIT II-3

BASIC FOUR REVENUE

COMPONENT REVENUE

	$ MILLIONS			
	79	80	81	82
TOTAL	171.2	197.0	212.3	210.2
Domestic Component				42%
International				58%
Domestic Revenue from Direct Sales				75%
Domestic Revenue from Distributors				25%

- The division of Basic Four revenue by types of customers is as follows: (Grade I).
  - Ninety percent are from small and medium sized businesses.
  - Ten percent is from departments of large companies and government agencies.
- Net revenue on Basic Four sales was $23 million in 1979 and $14 million in 1980 according to an article in the 9/28/81 issue of Business Week. (Grade I).
  - The 39% drop in revenue was attributed to the introduction of microcomputers by new companies such as Apple and Tandy as well as by older firms such as Burroughs and IBM.
  - The drop in net revenue was expected to continue.
- Net revenue for 1982 increased due to a drop in the cost of sales. (Grade I).
  - It was 39% of sales revenue in 1982 versus 42% in 1981.
  - The drop in the cost of sales was due primarily to lower manufacturing costs.
- Net revenue for Basic Four has continued to be disappointing in 1983 (Grade I).
  - Net loss for the nine months ending June 30, 1983 should lower profit margins on system sales due to lower average system prices and an unfavorable profit mix.
  - Foreign exchange rates continued to have a negative impact.
- Worldwide sales of Basic Four constituted 54% of MAI's third quarter revenue (Grade I).

- All Basic Four computing systems are sold (Grade I).
    - MAI will assist customers to obtain financing.
    - A leasing company owned by MAI will help with financing in the future.

C. KEY MARGIN DRIVERS (GRADE III)

- The key margin driver in Basic Four business is the margin on direct equipment sales.
- The margin on sales through OEM dealers is less than one-half of direct equipment sales.
- The margin on software sold by Basic Four has been small.
    - The margin on the office management system is higher but sales have not been significant.
    - When industry applications are not modified, software margins are higher, but still do not contribute to revenue significantly.
    - Basic Four intends to increase margins and total revenue for software.

III. MANAGEMENT, TURNOVER AND COMPENSATION

A. BACKGROUND (GRADE II)

- The Basic Four Division of MAI controls two corporations responsible for software development and a dealer network as well as internal functions as shown in Exhibit III-1.

- The management positions shown in Exhibit III-1 have generally been filled by promotions from a lower level.

  - MAI prides itself on promoting from the ranks.

  - Consequently, some of the managers of Basic Four came from the MAI sales staff that sold EAM (punched card) equipment.

- A limited number of new people have been hired into management positions during the last 2 years as a result of Stephen Keane's appointment as president of the Basic Four Division.

  - New personnel usually have more college educations and experience in other companies.

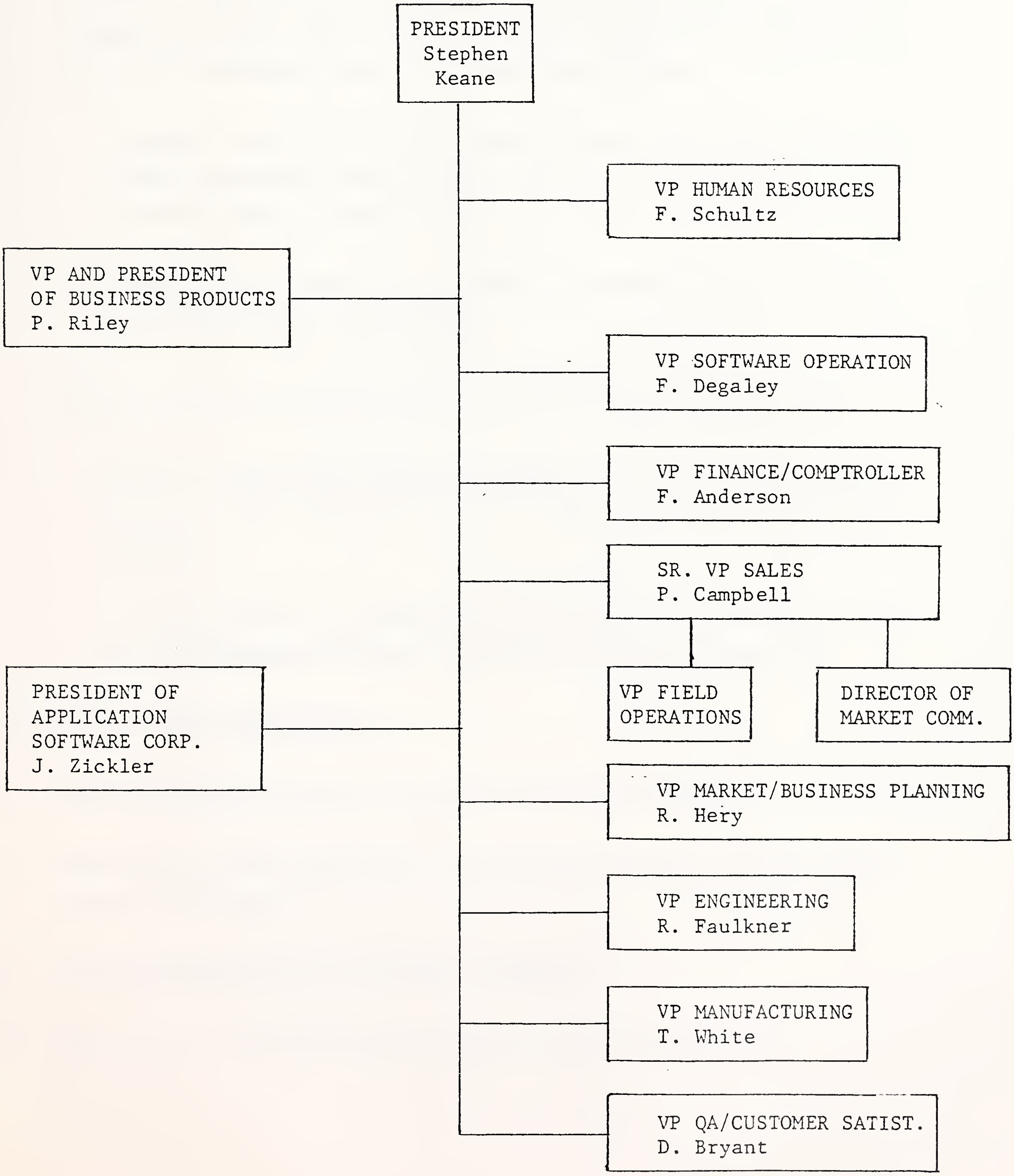
  - They have been obtained through recruitment firms and advertisements.

- Stephen Keane was appointed president in 1981 when it became evident that Basic Four was suffering from new competition. He had previously improved the performance of Sorbus.

  - These managers tend to have more knowledge of target industries and less college education than sales representatives at competitive firms.

EXHIBIT III-1

ORGANIZATION OF BASIC FOUR INFORMATION SYSTEMS



B. TURNOVER (GRADE III)

- Turnover of management in Basic Four and MAI was not significant until 1981, and it has increased since then.

- Turnover is illustrated by the changes in stock options available to MAI management between 1980 and 1982. Personnel of Basic Four attribute the impact on the stock option plan to turnover in their division.

    - Cancelled stock options in 1982 were 20% above the level of 1981 and 1980, indicating that more personnel were leaving since stock options are cancelled when an employee leaves.

    - Exercised stock options fell in 1982 below one-fifth of the 1981 level mostly due to a drop in stock price.

- Turnover was encountered in phoning management personnel at Basic Four.

    - Calls to 6 names that had appeared in reports or industry literature during the last 3 years revealed that only 3 of these people were still with the company.

    - The Vice President of Marketing and Vice President of Sales listed in the book, Data Sources, published in 1982, are no longer with Basic Four.

C. EQUITY POSITION (GRADE I)

- Only the President of Basic Four has significant equity position.

- The stock option plans described in II D indicates the equity available to lower levels of management.

D. COMPENSATION FOR MANAGEMENT (GRADE I)

- Basic Four has a cash compensation plan and three stock option plans.

- Certain key executives earn incentive cash compensations if predetermined objectives are achieved.
  - These are awarded to certain positions in sales and marketing shown in Exhibit III-1 (District managers, regional managers, vice presidents of sales and marketing and the senior vice president of sales).
  - Total cash compensation amounted to:
    - $420,000 in 1982
    - $440,000 in 1981
    - $245,000 in 1980
- Key employees of MAI, almost entirely management levels, can have stock options granted to them.
  - Options can be non-qualified or current.
  - Options are exercisable at market value as of the date of the grant, and must be exercised between one and seven years of the grant.
- Stock options only become an incentive or reward if the stock price rises.

IV. SALES AND SUPPORT PERSONNEL

A. ORGANIZATION AND LOCATION (GRADE I)

- The organization of sales, support and dealer relations in the field is shown in Exhibit IV-I.
  - Before October I, 1983 there were three regional vice presidents instead of the four shown in this exhibit.
  - The present dealer relationship which has dealer coordination at a regional level was also initiated on October I.
- The 200 sales personnel in 40 branch offices include branch managers, sales managers, senior account managers, account managers and sales representatives.
- There are also 200 people, about evenly divided between systems and administrative tasks in branch offices.
  - The organization of systems and administrative personnel is shown in Exhibit IV-I.
  - Systems personnel may be assigned to specific account teams and take direction from account or senior account managers.
- The location of branch offices and distributors (dealers) is shown in Exhibit IV-2.
- There has been discussion of using retail store distribution for the smallest Basic Four computer, the S10 microcomputer.
  - No definite plans were uncovered.

EXHIBIT IV-1

SALES AND DEALER ORGANIZATION

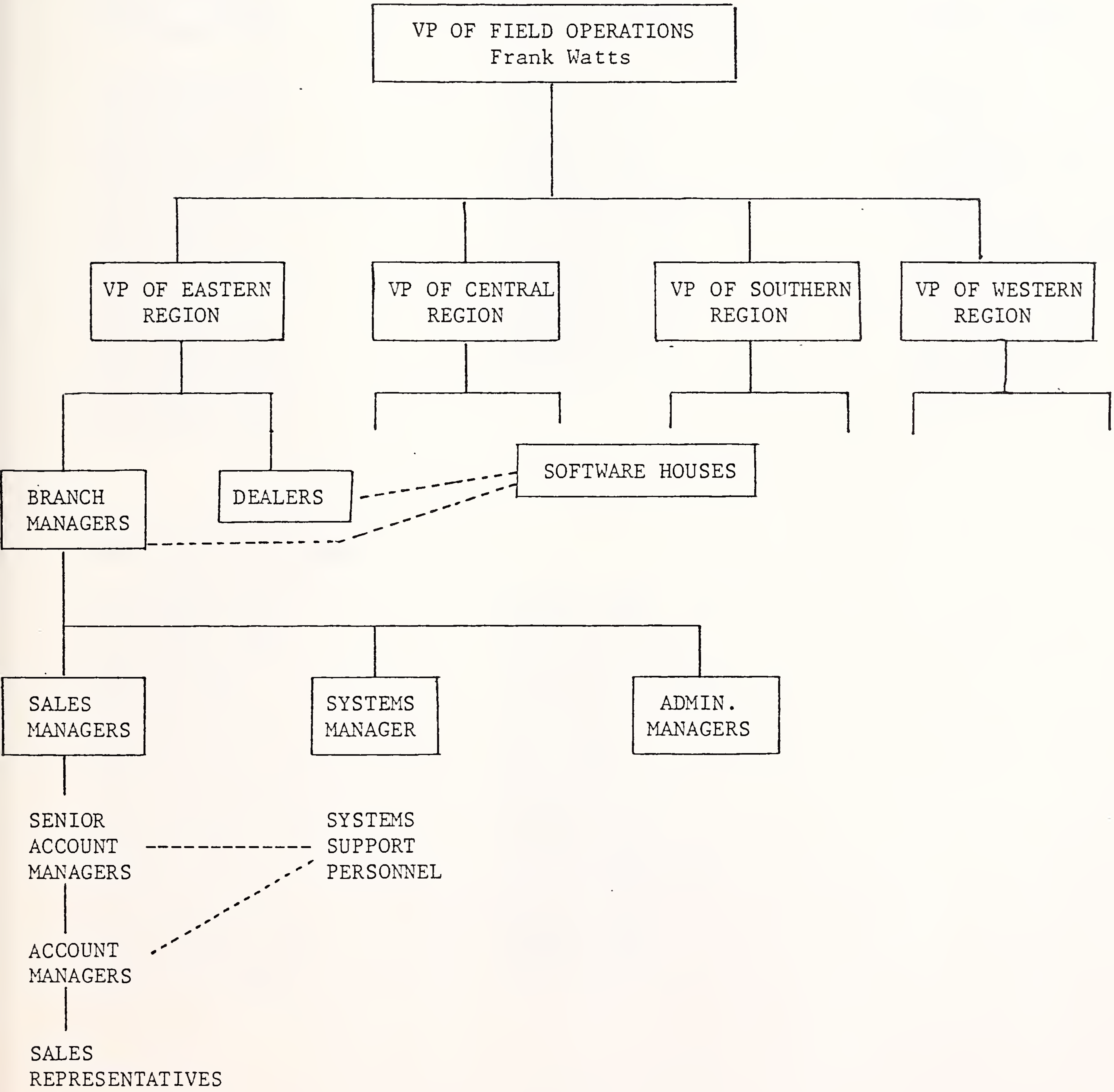


EXHIBIT IV-2

BRANCH AND DISTRIBUTOR LOCATIONS

BRANCH LOCATIONS

Sales Offices
Eastern Region
Parsippany, NJ

Fairfield, CT
Hartford, CT
Washington, DC
Baltimore, MD
Boston, MA
Cranford, NJ
Mt. Laurel, NJ
Melville, LI, NY
New York, NY
Allentown, PA
Harrisburg, PA
Philadelphia, PA
Pittsburgh, PA
Providence, RI

Central Region
Oak Brook (Chicago), IL

Miami, FL
Atlanta, GA
Oak Brook, IL
Detroit, MI
Kansas City, MO
St. Louis, MO
Charlotte, NC
Greensboro, NC
Cincinnati, OH
Greenville, SC
Greenbay, WI
Milwaukee, WI

Western Region
San Francisco, CA

Fresno, CA
Irvine, CA
Los Angeles, CA
Sacramento, CA
Salinas, CA
San Bernardino, CA
San Francisco, CA
San Jose, CA
Ventura, CA
Shreveport, LA
Las Vegas, NV
Dallas, TX
Houston, TX

DISTRIBUTOR LOCATIONS

Birmingham, AL
Montgomery, AL
Anchorage, AK
Phoenix, AZ
Tuscson, AZ
San Diego, CA
Denver, CO
Jacksonville, FL
Tampa, FL
Indianapolis, IN
Wichita, KS
Louisville, KY
New Orleans, LA
Grand Rapids, MI
Minneapolis, MN
Albuquerque, NM.

Buffalo, NY
Syracuse, NY
Cleveland, OH
Oklahoma City, OK
Tulsa, OK
Portland, OR
Erie, PA
Memphis, TN
Nashville, TN
Lubbock, TX
San Antonio, TX
Richmond, VA
Seattle, WA
Spokane, WA
Madison, WI

  - Sorbus does offer service for microcomputers through retail stores opened by Sorbus.

B. RECRUITMENT, TRAINING AND ORIENTATION TO CUSTOMERS (GRADE II)

- Basic Four, and the software vendors that work with Basic Four, concentrate upon certain industries.
  - New sales or systems personnel are sought from these industries.
  - Recruitment firms and advertising media are used which reach personnel from these industries.
  - Knowledge of target industries is felt to be more important than advanced education or a knowledge of computing.
- Promotion to branch and regional positions is mainly from the ranks.
  - Basic Four has a number of people, particularly sales personnel, with long term tenure.
  - The sales force has a college background, but less advanced education (MBA or MS) or computing knowledge than sales representatives of other computing vendors.
  - However, sales personnel may be more knowledgeable of the industries that they sell computing systems to.
- Systems personnel in branch offices have a higher turnover than sales personnel according to two people who resigned from these positions.
  - Some systems personnel move into sales positions or into systems management.
  - Systems people who have more interest in computing in general than in the target industries of Basic Four and the applications which serve them are more tempted to leave.

- There is internal training for sales and systems personnel which concentrates upon target industries as well as upon the computing systems offered by Basic Four.
  - There have been formal two week courses in computing systems for users and internal personnel.
  - Training is undergoing review and more informal sessions may be used.

C. QUALITY OF STAFF (GRADE III)

- Basic Four sales and systems support personnel appeared to be offering low quality service in 1981 and 1982 according to surveys in Datamation magazine as shown in Exhibit IV-3.
  - In each of these years, Basic Four was ranked higher than average by users who wished to change vendors (Exhibit IV-4).
  - The reason for this ranking was poor software support according to 50% of the companies interviewed.
- Basic Four has relied upon packages supplied by software vendors for many of its applications.
  - Basic Four recommended the vendor package to utilize with their equipment.
  - When problems occurred, Basic Four sales personnel tried to have the customer deal directly with the software vendor.
- During the last 12 to 18 months, an effort has been made to provide more support to users to diagnose problems, even when a vendor's package is the cause.
  - System personnel have become more knowledgeable of vendor products.

EXHIBIT IV-3

REASONS FOR PLANNING/CONSIDERATING VENDOR SWITCH

CURRENT PRINCIPAL VENDOR	PERCENT OF "SWITCHING SITES" DISSATISFIED WITH:					
	DELIVERY SCHEDULES	PRICE	HARDWARE RELI- ABILITY	SOFTWARE SUPPORT	SALES/ SERV ORG.	OTHER
Basic Four	11.1	22.2	11.1	50.0	27.8	22.2
Burroughs	3.0	15.2	33.3	57.6	21.2	21.2
Computer Automation*	16.7	16.7	-	66.7	50.0	33.3
Data General	4.9	20.7	30.5	35.4	28.0	23.2
Datapoint	21.1	18.4	13.2	26.3	26.3	31.6
DEC	5.8	23.1	22.4	34.0	24.4	25.6
Four Phase	7.1	3.6	21.4	50.0	17.9	21.4
General Automation*	-	25.0	25.0	75.0	-	50.0
Harris	-	9.1	27.3	72.7	9.1	9.1
Hewlett-Packard	2.5	22.8	16.5	30.4	24.1	36.7
Honeywell	-	4.8	33.3	66.7	9.5	19.0
IBM	6.8	31.5	15.1	38.4	21.9	24.7
Microdata	-	-	23.5	41.2	35.3	35.3
ModComp	-	16.7	25.0	41.7	8.3	25.0
NCR	-	20.0	20.0	40.0	33.3	20.0
Northern Telecom (Sycor)	-	20.0	60.0	20.0	20.0	30.0
Perkin-Elmer*	-	-	22.2	66.7	33.3	11.1
Prime	3.4	31.0	31.0	37.9	17.2	27.6
SEL*	-	-	-	100.0	-	66.7
Tandem*	-	-	33.3	33.3	-	33.3
Texas Instruments	5.6	38.9	11.1	11.1	44.4	22.2
Univac	-	7.1	50.0	71.4	14.3	21.4
Wang	6.5	16.1	19.4	22.6	38.7	29.0
Total Sites	5.0	20.5	22.6	39.5	22.2	27.8

*Less than 10 sites

EXHIBIT IV-4

PERCENT OF SITES PLANNING/CONSIDERING VENDOR SWITCH

MANUFACTURER	1980 SURVEY	1981 SURVEY	1982 SURVEY
Basic Four	16.9	32.7	26.5
Burroughs	29.6	27.0	29.5
Computer Automation	23.1	31.8	46.2
Data General	18.2	22.0	25.0
Datapoint	9.4	15.2	22.4
DEC	12.8	13.2	11.0
Four Phase	20.0	19.6	29.2
General Automation	53.8	60.0	25.0
Harris	24.6	30.0	25.0
Hewlett-Packard	10.6	10.7	14.3
Honeywell	17.9	21.4	15.7
IBM	11.9	12.8	11.1
Microdata	20.3	16.2	25.0
ModComp	17.9	23.3	36.4
NCR	19.8	15.5	22.4
Northern Telecom (Sycor)	41.7	30.0	52.6
Perkin-Elmer	19.8	26.2	18.0
Prime	8.3	8.2	14.1
SEL	11.1	16.7	13.6
Tandem	6.9	0.0	7.5
Texas Instruments	14.5	18.3	16.8
Univac/Varian	22.6/23.3	26.7/38.5	32.6
Wang	15.6	19.3	16.1
Total Sites	17.2	18.6	17.4

- Tandem continues to enjoy highest degree of customer loyalty.
- Consistently high also for IBM and DEC.
- But some deterioration in this year's data for HP and Prime, albeit to still better than aggregate percentages.
- Negative trend of past two years for Datapoint and Data General persisted in 1982 survey.

  - Software research and development groups will modify and support vendor packages.

  - Sorbus maintenance personnel report software problems that they become aware of or think might be the cause of problems at a site.

- The Basic Four staff is being upgraded through education and internal communication as a result of steps by new management.

- Basic Four continues to rely upon its knowledge of certain industries.

  - This wins allegiance from many users.

  - Users contacted during this study felt that they were being served well in general, but the names were obtained from MAI sources or advertisements.

- The Basic Four staff might be taxed in selling computing equipment and software on the basis of technical comparisons rather than industry knowledge.

  - Sales and support personnel contacted were not prepared for questions regarding competitive equipment or software.

  - Sales managers belittled such comparisons.

V. INVESTMENTS

A. MANUFACTURING PLANTS AND REAL ESTATE (GRADE I)

- Plants and real estate are summarized in Exhibit V-I.

- The Tustin, California facility (the largest) is subject to two mortgages:

  - 9.5% 30-year amortization schedule.

  - 9.812% 28-year amortization schedule.

- The Enschede property is occupied under a long-term line/purchase agreement similar to a net lease, with equal monthly payments. Title passes to MAI on completion of the lease. The building services produce both assembly and service operations in that country.

- The Frazer, Pennsylvania property title passes to MAI upon its performance under an agreement to untie individual development revenue bonds (maturity 1995) that financed the purchase of the land and development of the facility.

- Except those buildings mentioned in Exhibit V-I, MAI leases all of its buildings. Fixtures and equipment are generally owned by MAI.

B. OTHER INVESTMENTS (GRADE III)

- There is an inventory of spare parts for Basic Four equipment at OEM locations as well as at MAI sites (Basic Four and Sorbus sites).

  - The value of this equipment may be solely on the books of Sorbus.

  - The inventory of parts at plant locations would be the minimum investment that could be attributed to Basic Four. This could amount to about $5,000,000 according to MAI sources.

- There is about $1,500,000 of office equipment at Basic Four sites.

  - There is a compliment of office equipment, typewriters, copiers and adding machines, at regional and district sales offices as well as at the manufacturing and other facilities listed in Exhibit V-l.

  - There are S10 microcomputers with communications capabilities and the OMS, office management system software which includes electronic mail programs at regional offices, manufacturing plants, software development and corporate offices.

- Although Basic Four has title to equipment patents and rights to proprietary software, it is doubtful that either would have any value to another company if Basic Four ceased business operations.

- Officers of Basic Four use cars that are owned by Basic Four.

C. VALUE TO THIRD PARTY (Grade III)

- Basic Four sales representatives and management feel that many customers would install computing systems and software, even if Basic Four announced discontinuation of production.

  - One reason for this is the application focus which assures customers of success in certain industries.

  - A second reason is that a number of computers are on order from customers who have had Basic Four computers for a length of time. They would expect the new systems to be useful for a period long enough to pay off investment.

- There is a backlog of over 17,000 systems on order that would have some value if the foregoing is true.

- The manufacturing plants were devoted to producing eight bit computers which would have little value without an investment to upgrade capabilities.

EXHIBIT V-1

BASIC FOUR PLANTS AND REAL ESTATE, AS OF SEPTEMBER 30, 1982

INDUSTRY SEGMENT TO WHICH PROPERTY IS PRIMARILY DEVOTED	TYPE	APPROX. TOTAL SQUARE FOOTAGE	LOCATION
Information Processing Systems	Manufacturing, Administration, Engineering, and Research and Development	336.280	Tustin, California
	Product Assembly, Repair Center, Marketing	31,000	Enschede, The Netherlands
	Warehousing	23,500	Tustin, California
	Education	7,000	Irvine, California
	Administration, Education and Software Development	11,000	Irvine, California
	Administration, Sales, Education and Software Development; also Maintenance and Related Services	73,000	Frankfurt, West Germany
	Administration, Sales, Education and Software Development; also Maintenance and Related Services	52,000	Markham, Canada

SOURCE: 10K - 1982

  - Basic Four is now changing its production capability to produce the 8000 series, a 32 bit computer.
  - Manufacturing consists mostly of the assembly of computers for components and subcomponents, however.

- There are computer manufacturers who could take advantage of the Basic Four facilities, but there are other facilities available that would be equally attractive.

- As will be discussed more fully later, the principal value that Basic Four has is an ability to sell computing systems in certain industries.

VI. PRODUCT LINE

A. MIX OF EQUIPMENT (GRADE II)

- The line of computing equipment that is currently being sold is listed in Exhibit VI-l.
    - The programming language for the line is BASIC.
    - The operating system is upward compatible so that a job running on the S10 can run with the S10 operating system on any other computer through the 8000.
    - All computers but the S10 are manufactured by Basic Four.
- There are two computers which have been mentioned recently by Basic Four which are not included in Exhibit VI-l.
    - The S80 microcomputer was discontinued.
    - The 810 was dropped as a new offering during last summer when the 8000 series was announced.
    - The S10 and 710 are being deemphasized, but inventory is still being sold where possible.
- Some Basic Four personnel referred to computers in the 110-710 group as 8 bit or 16 bit machines.
    - Most or all installations appear to be 8 bit.
    - Manufacturing was prepared to handle a 16 bit path in circuit designs. This capability was utilized in the 8000 series.
- The 510 and 710 models are being deemphasized according to a marketing department contact.

EXHIBIT VI-1A

BASIC FOUR PRODUCT LINE

MODEL NUMBER	DESCRIPTION OF SYSTEM	PRICE RANGE	OTHER INFORMATION
S10	8 bit Micro; 64K-128K memory; 1.3 Megabyte disk; Two Terminals; bisynch. and asynch comm.	$4,000-8,000	Operating system can be BB/M, a subset of CP/M. Manufactured by Direct Inc. of California.
110/210	8 bit Mini; 16K-256K memory; 56 Megabyte disk; up to 16 Terminals; asynch. comm.	$20,000-62,000 (lowered in price by about 30%)	Operating System is BOSS.
310	8 bit Mini; 48K-256K memory; 120 Megabyte disk; up to 16 Terminals; asynch. comm.	$52,000-81,000	Operating System is BOSS.
510	8 bit Mini; 16K-256K memory; 300 Megabyte disk; up to 16 Terminals; bisynch or asynch. comm.	$50,000-80,000	Operating System is BOSS.
710	8 bit Mini; 48K-512K memory; 600 Megabyte disk; up to 32 Terminals; bisynch or asynch comm.	$66,000-112,000	Operating System is BOSS.

EXHIBIT VI-1B

BASIC FOUR COMPUTING SYSTEMS

8000 SERIES

MODEL NUMBER	DESCRIPTION OF SYSTEM	PRICE RANGE	OTHER INFORMATION
8010	32 bit Mini; 512K-2 Meg memory; 144 Megabyte hard disk; 75 Mbyte or 285 Mbyte removable disk; up to 16 users; bisynch or asynch	$52,450-170,000	BOSS/VS Operating System; database and communication software
8020	Same as above but with dual processors and 1 to 4 Megabytes of RAM; up to 48 users	$90,000-300,000	See above
8030	Same as above but with three processors; 1.5-8 Megabytes of RAM; up to 96 users	$140,000-500,000	See above
			All of the above 2780/3780 and 3270 emulation, X25

  - Orders will be filled for these models and new orders will be taken if present users or prospects cannot be steered to other models.

  - The 8000 series will be suggested as an alternative to these models where possible.

- On site maintenance for all models including the S10 is offered by Sorbus.

B. COMPETITORS BY SEGMENT (GRADE III)

- Before 1980, Basic Four was one of a limited number of minicomputer vendors who sold low cost computing systems, with an initial cost below $20,000 to selected industries.

  - BusinessWeek pointed this out in an article on September 28, 1981 and identified Microdata, a McAuto subsidiary, and Quantel as two other competitors in the same position.

  - The article emphasized that these companies were suffering from the introduction of microcomputers and the growing tendency of users to acquire micros at stores to meet a subset of their needs.

- The article pointed out that the flood of microcomputers and software packages from many new companies as well as from established vendors created a new environment where users could get started in computing by themselves.

  - Basic Four wanted to help a user get started with a complete (although usually small) application system that would encourage users to grow with Basic Four.

  - The new environment has encouraged many users to automate part of a system such as the production of financial reports as an initial step. This costs substantially less and provides education. A current prospect of Basic Four told me that he is planning the same step, the use of a micro and package, rather than a Basic Four system application.

- The introduction of stores that sold micros and software as well as the entry of established vendors into the market below $20,000 also reduced opportunities for Basic Four and other vendors in general.

- Basic Four and the other established minicomputer vendors in the low cost market responded by broadening their product lines:

    - Basic Four introduced a microcomputer (S80) with word processing and data processing capabilities in 1981 and started development of a lower cost microcomputer (S10) as well as a more powerful computer at the top of the line (810).

    - Quantel and Microdata both announced smaller machines also.

- Basic Four has intensified its industrial emphasis since 1981 and taken advantage of new computer offerings as a means of protecting the lower end and higher end of markets where it has installed customers.

    - The S10 is sold almost exclusively to customers of other Basic Four models.

    - The new 8000 series provides a protection against customers moving from Basic Four equipment to an IBM 4300 installation according to sales representatives.

- The 8000 series will also be used as an initial installation where Basic Four is approaching larger users than they had traditionally addressed.

    - This strategy has required the development of software necessary for sales in a larger scale minicomputer market, such as database and communication packages.

    - This strategy has also required that sales and support representatives became more knowledgeable of competitive computer hardware and software.

- The introduction of more capabilities that could address competitors in the middle or upper range of the Basic Four line recognized problems that were not previously mentioned.

  - More powerful minicomputers particularly, IBM 4300, 3800, and 8100 computers had taken users and prospects away from Basic Four.

  - Users also grew out of the Basic Four line and went to other vendors.

C. TRENDS AND LONG TERM VIABILITY (GRADE III)

- The competition in the microcomputer market will create increasing pressure on Basic Four.

  - The improvement of performance at low price levels will encourage more users to start with microcomputers.

  - The appearance and improvement of supermicros will provide increasing competition at all levels of Basic Four products.

- The continuing rapid pace of improvement in minis will provide an increase in competition at the upper end of the Basic Four line. This will be true whether or not Basic Four has a successful mini offering in the 8000 series.

- These trends are recognized but Basic Four management does not seem to be exploring equipment strategies to respond to them.

  - Internal resources are occupied in the introduction of the 8000 line.

  - Rumors exist that MAI management is considering the use of other manufacturers as they did for the S10 micro, but they are unsubstantiated.

- Basic Four could use its knowledge of certain industries as a means of addressing competitive equipment improvements.

  - This strategy may encounter resistance when a marked diffference in capability appears between Basic Four and competitive equipment.

  - It would be necessary to constantly introduce new equipment.

- Price cuts have also been used when a model appears to be at a disadvantage on a price/performance basis.

  - This has been successfully done for the 210 and 310 systems.

  - Sales of these computers have picked up in the recent past after the prices were lowered.

VII. COST STRUCTURE (GRADE III)

A. COST STRATEGIES

- The size of the manfucturing operation at Basic Four suggests there should be opportunities for economics of scale.

    - Basic Four employs 800 people in manufacturing at Tustin, California.

    - There is also a product assembly facility in the Netherlands.

    - There was a backlog of over $70 million dollar in orders for equipment as well as orders for parts as of September 30, 1982.

- In 1982, Basic Four reported that manufacturing costs were lowered to respond to a more competitive marketplace.

- Basic Four has achieved economy of scale in equipment manufacture by having a high degree of commonality between models in its product line (210 through 710).

- Similarly, economy of scale has been achieved in software development through upward compatibility.

- Recent developments have had an impact on the economy of scale in product development.

    - The S10 micro and 8000 minis, to a great extent, are not compatible with the product line on a hardware basis.

    - Upward software compatibility has been achieved through the expense of additional development costs.

- MAI achieves cost economies by integrating activities of Basic Four and Sorbus.

  - At non Basic Four customer sites, Sorbus maintenance personnel provide leads for computing system prospects.

  - Basic Four sales representatives recommend Sorbus maintenance to their customers.

  - When Sorbus becomes aware of customer problems or dissatisfaction over software, at Basic Four sites, the sales staff is informed.

  - Some office locations and phone lines are shared between the two divisions.

B. RELATION WITH HARDWARE VENDORS

- As of September 30, 1982, Basic Four manufactured all major components of its computing systems with the exception of disk and tape drives, certain teminals and printers, and the S10 microcomputer. Most manufacturing activities at Basic Four may be assembly of components and subcomponents.

- Vendors have assisted Basic Four to integrate equipment components or subcomponents that utilize new technology.

- Basic Four has not considered alternate vendors for all equipment acquisition.

  - Consequently, suboptimal choices may have been made in equipment development and system integration.

  - It may be difficult to compare vendors when present suppliers have helped to design and implement production.

- Basic Four feels the fact that there are alternate sources of supply for components where a single source is used, provides some leverage over suppliers.

- The primary leverage over suppliers has been the volume of business that Basic Four has provided and may provide in the future.

C. COMPETITIVENESS

- The cost structure which characterizes Basic Four manufacturing does not provide a competitive edge, and the firm does not stress manufacturing cost margins as a reason for success.

- Basic Four stresses its ability to meet the needs of key industries and support a vertical sales strategy.

- Although Basic Four management feels that its practical approach to equipment development has produced favorable results with the 8000 line, there are questions regarding the ability of the firm to manufacture competitive models in the future.

VIII. THIRD PARTY SOFTWARE (GRADE III)

A. INDUSTRY CONCENTRATIONS

- Basic Four emphasizes certain industrial or vertical markets as shown in Exhibit VIII-1.
    - This is a partial list culled from MAI brochures.
    - Licensing rights are being obtained from software vendors for packages that address these industries.
    - Packages are also being internally developed to serve these markets as well.
- Applications software programs other than for vertical markets are developed and installed by independent software vendors, the customer or occasionally, Basic Four.
    - Where Basic Four feels that a prospect's applications can add to a present industry of interest or provide a new one, arrangements will be made for the purchase of the system by MAI.
    - The customer would then pay a monthly lease for the software.
    - Basic Four would ensure that documentation was adequate and that support can be provided.
- A prospect stated that this approach toward developing a new application area meant that he would devote time to help design a system and educate personnel from both Basic Four and a system house.
    - In his opinion, this approach would have been more acceptable in the past.

EXHIBIT VIII-1

INDUSTRIAL OR VERTICAL MARKETS

Accounting

Automobile Dealers

Construction

Doctors, Dentists, and Hospitals

Discrete Manufacturing
- order entry and control
- inventory control
- accounts receivable
- customer shipping priorities and packaging
- sales statistics
- pricing
- credit checking

Hotel Management

Legal Offices

Membership Organizations

Pharmacies

Property Management

Publishing
- inventory control during distribution
- sales statistics

Securities
- customer transactions
- government securities trading

Service Industries
- customer scheduling
- billing and accounts receivables

  - He is presently thinking of obtaining a micro and addressing pieces of his application which would save both money and time.

- The use of systems houses to address applications that were in industries not yet identified as key industries has only become a strategy of Basic Four in the last few years.

  - Basic Four used to rely on software firms for application support whenever internal personnel were not available.

  - Pressure on the internal staff to support the new virtual operating system and other new software has made it necessary to return to greater reliance on software firms at least for the present.

- In line with the strategy of obtaining rights for application software that addresses key industries, MAI bought RCO Corporation in 5/82.

  - This firm, formerly a Basic Four dealer, had developed the software for the S10 micro.

  - Now known as the MAI/Basic Four Business Products Corporation, the firm is developing and marketing application software for the S10.

B. INDUCEMENTS TO SOFTWARE FIRMS

- Basic Four has provided a stream of continuing business and royalties to software firms which supply packages to customers.

- The software work has been mostly with uncomplicated jobs in BASIC.

- There has been little pressure to learn new programming skills or become involved with new technology.

- The software firm signed a contract for support with the customer and became involved with customer problems as well as with requests for enhancements and add on systems.

- Some software firms are also distributors for computing systems.

C. TRENDS OVER TIME

- Changes are underway at MAI which will affect software vendors over time.
    - More software development will be done internally to support key industries and even to meet requests from prospects outside of key industries.
    - Older Basic Four computers will be discontinued and software firms will have to support the more complex 8000 series with a virtual operating system, and new database and communication software.
- MAI is addressing two situations which could result in less reliance on software firms.
    - The first is to increase revenue on software packages.
    - The second is to reduce complaints from customers regarding software support.
- Software firms are also being provided less time on Basic Four equipment to develop new applications.
- There can also be reasons for some software firms to move away from Basic Four. In general, better software firms may be inclined to develop more of a foothold in IBM software in today's market.
- Some software firms will be inclined to stay with Basic Four since they have a dealer relationship, continuing royalties, or feel more comfortable with BASIC applications.

IX. RESEARCH AND DEVELOPMENT (GRADE III)

A. BACKGROUND AND FOCUS

- Expenditures for research increased from about $4 million in 1979 to over $15 million by 1981.

- There were over 270 engineers, programmers and other technical personnel at 9/30/82.

- The focus of Basic Four research during the 70's, was upon extending the equipment line upwards to meet the needs of expanding users.

- Despite the increased competition that MAI encountered after 1979, this focus can still be found.

    - In the 1982 10K report, MAI noted that state of the art technology, derived mainly from suppliers, was being used to upgrade the product line.

    - MAI noted that this approach to R and D involved the concentration of innovative efforts upon applied rather than basic research.

- In recent years, the focus upon upgrading the product line has become more reactive.

    - When competition from micros became intense in 1979 and 1980, Basic Four quickly introduced a micro.

    - This micro (S80) was dropped within a short period of time when it was found to be too high in price for the market.

    - The S10 micro was released shortly afterward without research on its price level.

- The S10 is being built by a manufacturer in Southern California.

    - No indication can be found that other manufacturers were considered.

  - It has not enabled Basic Four to gain business outside of current installations although it was first mentioned as having this potential.

- The office automation system was mentioned as the result of a research and development endeavor in the 1982 annual report.

  - It was noted that the market for office automation might be as high as $200 billion; this provided the impetus for development.

  - No complete plan was developed to support its release according to sales personnel, although they point out that it was useful to have such a package available for customers.

- Basic Four spends research funds upon software product development as well as hardware.

  - Some of this research has been for the virtual version of the BOSS operating system, communications software and, office automation software including electronic mail.

  - Research funds have also been spent to develop or modify software packages for industrial applications in areas of interest to Basic Four according to sales personnel.

B. PRODUCTIVITY

- It is difficult to fully address the productivity of the research and development staff of Basic Four.

- One of the two highlights of research work mentioned in the 82 annual report was the introduction of the S10.

  - This computer and all the software for it were not obtained as a result of research of the Basic Four staff.

  - Basic Four bought the firm that developed software for the S10 and did not design or develop the S10.

- The redirection or changes that were necessary to change plans from the 810 computer to the 8000 series during this year deserve review, however.

    - Hardware planning had to change from an 8 bit to a 32 bit (16 bit path) machine and 3 models had to be designed: the 8010, 8020 and 8030 systems.

    - The operating system as well as communication software had to be changed as well.

- User experience with the 8000 series will provide more information on the magnitude and success of this effort.

C. HOPE PROVIDED BY RESEARCH AND DEVELOPMENT

- There is no indication on the basis of experience prior to the 8000 that the research staff could produce equipment that would be highly competitive in the current or future market.

    - MAI research staff has had to focus on near term results and react to competitive developments.

    - Basic Four has relied upon uphill software compatibility and continuity in the models in its product line.

X. SELLING PRACTICES (GRADE III)

A. DECISION MAKERS AND BASIC FOUR (Grade III)

- Basic Four attempts to contact and sell user management.
  - By marketing solutions to problems in a select group of industries, Basic Four hopes to interest user management sufficiently so that they will make a decision, in organizations where that is possible, or to take a recommendation to corporate or information system management.
  - In small companies, where top management is involved in user activities or in any size firm including divisions of large companies where users have freedom to make decisions, Basic Four sales representatives find their ideal decision makers, according to sales personnel.
  - In companies where an IS organization is large enough and powerful enough to not only review but set the ground rules for comparison and acquisitions of computing systems, Basic Four has faced more problems.
    - In the past more frequently than the present, Basic Four would react to this by attempting to circumvent IS and encourage users to go to corporate management.
    - Basic Four is developing new strategies for working with IS management and influencing their decisions.
- During the first 8 to 9 years of business, Basic Four sales representatives found it helped to use EAM contacts that had been developed through the MAI business.
  - These former EAM users might have progressed to IS management or have good contacts with IS managers.
  - These contacts became less helpful in the late 70's, when it became more important to know something about your own and competitive computers and software.

- Basic Four is now attempting to upgrade the knowledge of sales and system personnel so that they can deal with situations where IS management has more influence as well as where users are more knowledgeable.

B. CONTACTING AND SELLING PROSPECTS

- Basic Four hopes to bring their products to the attention of prospects through:
    - Advertisements in journals of target industries.
    - Television advertising which provides a general image of Basic Four as a leading computer vendor as well as a message about the service provided to target industries.
    - Contact between user executives in target industries. (Users are encouraged to spread the word about their use of Basic Four systems).
    - Exhibits at shows reaching targeted industries and at some general computing shows.
    - Brochures describing applications of Basic Four which are mailed to companies in the appropriate industries.
- A number of contacts are made through requests for information that result from the foregoing activities.
- Direct contact is made by letter, mailed brochure, phone and visits to prospects.
    - The prospects may have been identified by current users.
    - The prospects may be sought out because they have similar titles or job functions to present users.
    - The prospects may be past contacts of sales personnel, their friends or of other MAI personnel.

  - They are not generally firms that are selected due to their size or location in an area that Basic Four serves.

- Sales representatives try to sell a total solution to a potential user's problems as shown in the advertisement in Exhibit X-1.

  - Testimony of users is heavily relied upon to support the Basic Four sales pitch.

  - The length of time that users have stayed with specific Basic Four computing systems and the applications packages they originally obtained is also used to support sales arguments.

- Discounts have been used to aid selling in some situations.

  - A large number of peripheral devices may be discounted.

  - Older models have been discounted. At present, the 110 and 210 are being sold at a discount.

  - Administrative personnel referred to discounts on large systems, but this has not been verified.

- Extra attention to problems may also be offered as an inducement to prospects whether or not extra service is delivered.

- A lot of attention is given to establishing the credibility of the sales staff on the basis of industry knowledge which assists in the attempt to close business.

C. TRENDS OVER TIME OR GEOGRAPHIC AREAS

- As noted, Basic Four has found it necessary during the last few years, to add new hardware and software capabilities and to prepare their sales and system personnel to respond to situations where an IS staff or users want to compare Basic Four products to those of other computing vendors.

EXHIBIT X-1

Fluorocarbon grew up with MAI/Basic Four

In 1972, when Kenneth J. Holland first joined The Fluorocarbon Company as treasurer, Fluorocarbon was an organization doing about $7.5 million in net sales with about 200 employees. It had what looked to Holland, with some room-sized IBM mainframe experience, like a "little blue box in the corner" for a computer.

That blue box was a Basic Four* system with serial number 44.

Today Fluorocarbon's annual sales have grown to approximately $95 million with about 1,350 employees at 25 locations. The company is an acknowledged leader in manufacturing high performance plastic and rubber components for the capital goods market. It also has just taken delivery of an MAI* 8000, its fourth information processing system from MAI.

"We've grown up with MAI/Basic Four," allows the personable Ken Holland, who now is vice president and secretary treasurer.

And, while that original "ol' number 44" isn't around any longer, a Basic Four* 610 is still working hard at Fluorocarbon's Seattle division, and the System 730 that was replaced by the new MAI* 8000 Series in Orange County, California has been sent to the company's subsidiary location in Birmingham, Alabama.

Originally Fluorocarbon used outside programming, but now creates most of its software in-house.

"We tend to create exactly what we need, and we put as much as we can on the systems. Our systems are running about 70 hours a week and are very cost effective." Applications include all corporate financial reporting, sales data and analysis and manufacturing information. The majority of the payables and payrolls and all of the financial statements and analysis are done at the main office utilizing an accounting and data processing staff of 20 persons. The systems have communications capabilities and can run at night unattended.

"In six working days we have our preliminary financial report for the prior month. By the close of the ninth working day we have a fully analyzed financial report ready for presentation to the board of directors," Holland indicates.

"This covers the profit and loss and general ledgers of 17 divisions at 25 locations. I estimate that our current financial analysis time is about 80% less than it would be with a manual system."

Payroll data is sent to Fluorocarbon's headquarters on Monday, and the company's entire payroll is out on Tuesday afternoon.

Holland is justifiably proud of his systems and its manufacturing applications.

At the Seattle location programming for order entry, inventory control, job costing and other applications has been created by the company's three full-time programmers.

One such application creates bills of materials for complicated subassemblies built for Boeing Company, and it also produces reverse bills of materials.

"The reverse bills of materials are really great for anticipating purchasing requirements," Holland emphasizes.

Fluorocarbon's three programmers try to design the software specific enough for a particular division's manufacturing needs and still broad enough to carry over to other divisions for cost savings and consistency.

Other computer vendors have tried to interest Holland in their systems over the years.

"We've had representatives from nearly every major computer company in here talking to us. But when they see what we're already doing, they can't match it at any price. We've put an awful lot on our Basic Four systems. We keep filling them up, and they keep doing the job for us," Holland concludes.

  - Effort is being made to educate Basic Four personnel to be prepared to discuss their database or electronic mail capabilities or the features of the new 8000 series versus those of competition.

  - When questioned sharply, several sales managers immediately reverted to the former strategy of down playing computer knowledge and emphasizing knowledge of industries, however.

- There is a trend emerging to expand the numbers of industries in which Basic Four would seek business, according to sales management. This does make it seem as though all industries are targets, however.

- Basic Four is also taking more steps to appeal in a general way to prospects, independent of their industry. Television advertising, booths at general computer shows and sales contacts illustrate this trend.

- Basic Four seems to be more involved with EAM equipment installations and sales overseas than in the U.S.

- This will decrease over time first as it did in the U.S.

- The new 8000 series of computers is emphasized more in the U.S.; whereas smaller computers such as the 110, 210 and 310 seem to be emphasized more overseas.

D. DISTRIBUTOR SALES

- The role of dealers in sales should be reviewed as well.

  - Basic Four is regarded as having a good dealer network.

  - Dealers contribute 25% of domestic sales revenue.

- In addition to selling Basic Four computers, dealers are involved in selling software and consulting services generally.

  - Dealers might also sell other types of equipment or services in certain industries.

  - Dealers may also sell other computers.

- The software packages and consulting services of a dealer and of software firms might be recommended by Basic Four as a means of obtaining direct sales.

- Dealers offer an economic means of covering more geographical area.

  - Dealers also have contact in industries and firms that help to expand sales volume.

  - They also have additional reasons for contacting and becoming acquainted with prospects.

- Outside the continental United States, Basic Four computers are sold by:

  - Wholly owned subsidiaries in Austria, Belgium, Canada, Costa Rica, France, Mexico, the Netherlands, the Philippines, Puerto Rico, Spain, Sweden, Switzerland, the United Kingdon, Venezuela and West Germany.

  - Non-affiliated distributors in 22 other companies.

- The vertical markets which MAI emphasizes, vary from country to country.

XI. STRENGTHS AND WEAKNESS IN RELATION TO ACQUISITION (GRADE III)

A. EVALUATION OF STRENGTHS AND WEAKNESSES

- A list of strengths and weaknesses of Basic Four is shown in Exhibit XI-1.

- The installed base of computers and international network of sales and dealer locations are strengths of Basic Four that would have appeal to several kinds of information product suppliers.

- Strengths that support these key strengths are the succcessful sales record and industrial or vertical market strategy.

  - The vertical strategy is "fuzzy" when it is investigated further. It should be clarified for sales personnel.

  - There have been tendencies lately to leave the vertical strategy and broaden sales coverage.

    - This started with word processing and S80 sales efforts.

    - Contacts have also been extended for sales of the present product line, particularly the 8000 series.

  - The sales staff is not always well tuned to the vertical strategy. They can not talk the language of the industry sufficiently and try to rely on becoming a friendly visitor according to prospects and customers of Basic Four.

  - The domestic sales staff is also not sufficiently aggresive according to a sales manager who has transferred to the U.S. from Canada.

- The inventory of applications and network of software houses would offer strong support to the key strengths if Basic Four continues to market its present line or compatible equipment.

EXHIBIT XI-1

STRENGTHS AND WEAKNESSES OF BASIC FOUR

STRENGTH		?	WEAKNESS	
SIGNIFICANT	MODERATE		MODERATE	SIGNIFICANT
Industrial (Vertical) Market Strategy Installed Base Application Inventory Sales Record Dealer Network	Software Firm Relations Maintenance by Sorbus	New Product Line S10 Micro (probably, a minor weakness)	Manufacturing Level of knowledge of sales and support staff	R&D

  - The applications and documentation for them could be used to help develop jobs for other computing systems, however.

  - The affiliated software houses could also help support a conversion to other computers.

- Many of the applications may not be efficient and require upgrading, of course.

- The Sorbus maintenance service would also offer strong support to the key strengths.

- The level of knowledge of the sales and support staff is not a significant strength of Basic Four.

  - The level of their knowledge of computing hardware and software needs to be upgraded.

  - Prospects question their industrial knowledge, and the sales staff whom we interviewed appeared to lack knowledge when they were asked about industries that they had contact with.

  - Length of tenure with the company is the main criteria for success which many personnel recognize.

- The new president is addressing both technical and industrial knowledge with courses and internal notices and messages.

- The president has raised staff morale as well.

- Manufacturing capabilities are adequate for the present equipment line although there have not been sufficient deliveries of the 8000 series to evaluate the ability to manufacture this equipment.

- The value of plants, real estate and other assets would not justify the price that MAI would want for Basic Four.

  - The plants are used mainly for assembly rather than board manufacture.

  - The order for equipment might be difficult to fill if it was felt that Basic Four was discontinuing business.

- Research and development is not a significant strength as discussed in chapter IX.

  - Equipment planning relies heavily on vendors and is solely concerned with applying technology.

  - Software development has been used to develop and modify applications, although it is being exposed to more challenging system software work with the 8000 series.

- The 8000 series is the question mark in evaluating the product line of Basic Four and more installations are needed to evaluate its success.

  - Without the presence of this series, Basic Four appeared to be trapped with an automoded line.

  - By discounting the 210 - 310, deemphasizing other earlier models, and introducing the 8000 Basic Four has revamped the look of its product line.

- One major question that would face any company considering the purchase of the Basic Four Division of MAI would still be what to do with this equipment line.

  - Should the entire product line be phased out as new equipment is introduced?

  - Should the equipment line be augmented with new lower cost computers in place of the S10, 210 and 310 or higher cost computers in place of or above the 8000 series?

- Arguments can be made to replace the lower end of the equipment line since customers in the target industries of Basic Four are likely to acquire equipment from other vendors in this price range.

  - A micro at a starting price lower than $5000 which was compatible or nearly compatible with the IBM PC might be sold more easily than the S10 by Basic Four personnel during visits to accounts. (A subset of BASIC might be used for small applications that would be moved uphill on Basic Four equipment.)

  - A recognized company, rather than the S10 manufacturer chosen by Basic Four, might offer more appeal and be interested in an additional outlet for its micro.

- A line of new micros that went from a low cost model to a super micro could be considered for replacing the S10, 210 and 310.

- Computing systems larger in scale than the 8000 would not seem warranted since Basic Four has had its success with smaller firms.

- It seems premature to consider replacement of the 8000 series.

  - Considerable investment has been put into the system.

  - This series offers sufficient performance at its cost level to interest Basic Four prospects and current users, according to marketing and planning personnel at MAI.

  - It enables the application inventory of Basic Four to be utilized.

- The 8000 series will be outmoded in a few years even if it succeeds in the current market.

  - This decade will witness a constant series of improvements in technology and intensification in marketing in the microcomputer area that will undermine current minicomputers according to Bill Read, General Manager of the United Kingdom operation of Sperry in his article in the 10/83 issue of Infosystems.

- There are now supermicrompusystem that offer a better price performance ratio than the 8000 series such as the Charles River and three Rivers systems. Sophisticated data base software as well as compilers and communication packages have already been developed for these new computers.

- There is a strong likelihood that fourth generation languages and/or application generation techniques will be introduced in target markets of Basic Four and offer appeal to users. (See Exhibit XI-2).

- Basic Four should have an affiliation with a firm that has the intent and resources to continue in business as a computer manufacturer.

    - This firm should engage in sufficient hardware and software research to help Basic Four remain competitive in appropriate market areas.

    - The firm should be able to help Basic Four grow out of the limitations of its equipment design and software when that appears necessary.

- These observations suggest that Basic Four would make a favorable acquisition candidate for a Japanese manufacturing firm or group.

    - Alternately, another type of acquirer could arrange an affiliation with a computer manufacturer such as Convergent Technology.

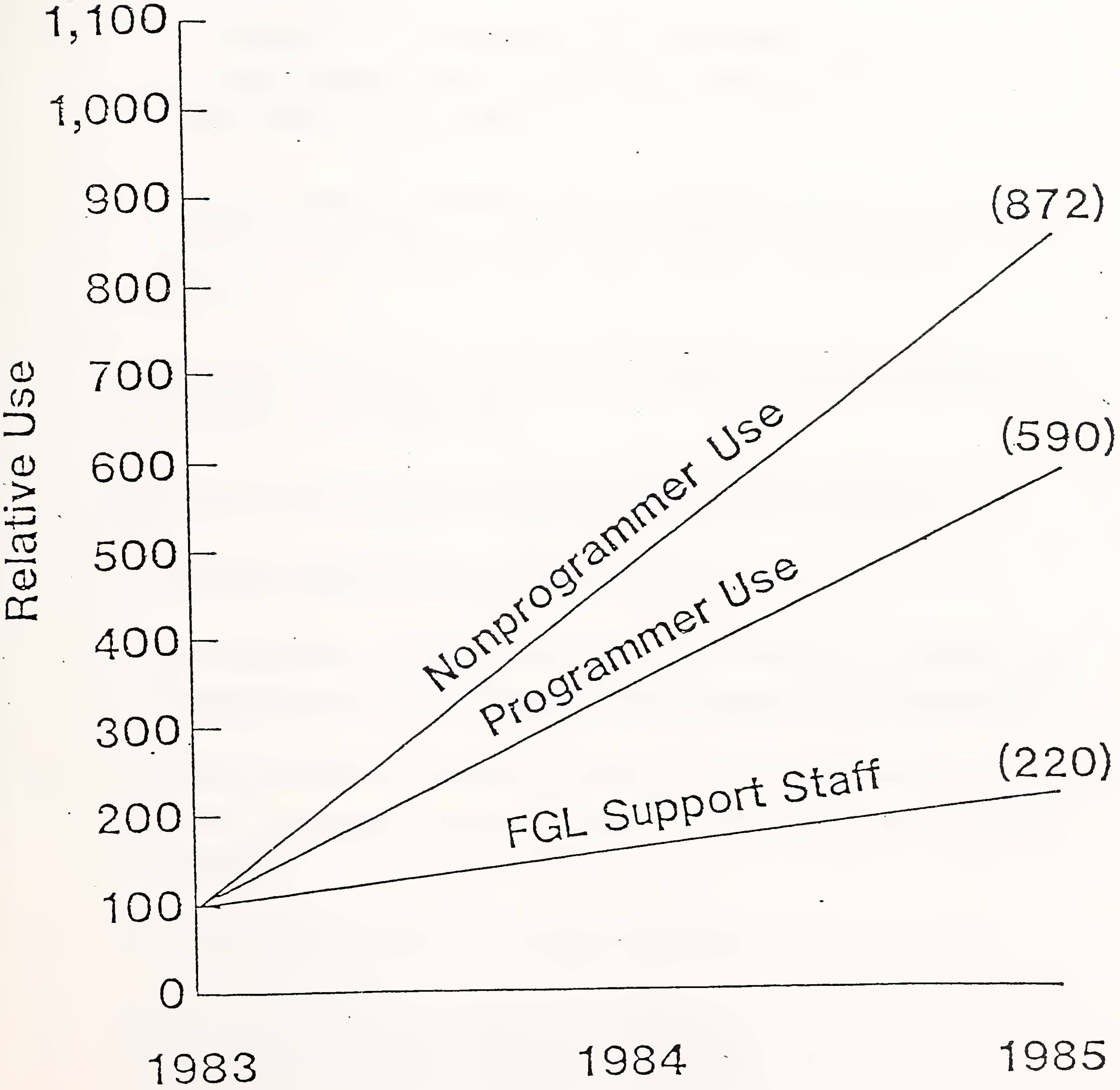
    - Domestic manufacturers who don't have sufficient market coverage such as Data General might be considered as an acquirer.

- There are other strategies which could be considered in regard to Basic Four.

    - The firm could be strengthened by adding other information system products of interest to its industry targets. According to dealers serving industry segments these could include proprietary data bases, information retrieval systems, graphics generation or industrial automation systems using computers.

EXHIBIT XI-2

THE GROWTH OF FGL



1983 use = 100

  - The firm might be strengthened through the acquisition of an equipment supplier which handled some of the peripherals that it now purchases. A small manufacturer of a powerful micrcomputer or line of computers might also be considered.

- Basic Four could be strengthened through steps such as those indicated and/or through improvements in present areas of weakness.

  - This might be a wise decision for a firm interested in acquiring MAI since this would provide an opportunity to unravel the accounting and relations between Basic Four and Sorbus.

  - This could lead to an enhancement of the value of Basic Four, particularly to information industry experts and prospects knowledgeable of the industry.

- At the present time, many large firms in or out of the computing industry, do not hold Basic Four in high regard.

- Basic Four will have an optimal value to a firm which has interest in:

  - The sales capabilities noted as key strengths.

  - The application software inventory. In a scenario of declining net revenues for minis, this inventory could be regarded as a significant asset.

- A Japanese computer manufacturer (or group) or domestic firm which wants to enter the information industry might be interested most by these considerations.

- The value of Basic Four in such a situation would be related to its income.

- Before it was possible to negotiate an arrangement for Basic Four, however, its integration of activities with Sorbus would probably be subject to further review.

B. CONCLUSION AND RECOMMENDATIONS

- The Basic Four image is still not sufficient enough to command a respectable price.

- Basic Four needs to emphasize its sales networks, industrial or vertical market strategy and inventory of software applications over its image as an equipment firm (one of the limping original minicomputer vendors).

  - It might be necessary to change the name of the firm to emphasize this.

  - An ability to utilize one of several equipment strategies in the future needs to be stressed.

  - Suggestions that equipment could be obtained from a Japanese manufacturer or firm like Convergent Technology would strengthen the image of the firm.

- However, the present emphasis by MAI on the 8000 line has reached the point where a sales executive stated that Basic Four is ready to compete with IBM, DEC, and Hewlett Packard minis in general markets and for Fortune 1000 prospects.

  - This seems confusing to many observers who question how Basic Four will be able to maintain its industry emphasis and sell this braodly. Sales and software support capabilities will be taxed.

  - Articles and comments by "industry experts have noted the increasing competition in mini systems."

  - DEC has just reported a bad quarter which is intensifying questions about minis.

  - Other vendors including IBM are emphasizing application software more than in previous periods.

  - Stephen Keane, President of Basic Four, was quoted in a 7/83 Datamation article as saying that software work drives the industry.

- Basic Four has swung from a position where it had to plug a gap in its computer product line to position where the division's future is portrayed as being based on the success of the new 8000 series. 30% of 1984 revenues for MAI are supposed to come from the 8000 according to Paul Campbell, the Senior Vice President of Basic Four sales.

- If the 8000 takes off, it could provide the momentum to increase the value of Basic Four to a potential purchaser.

  - Purchasers in this case would probably come from firms who wanted to enter the computer industry rather than computer manufacturers looking for a good sales organization and industry penetration.

  - Firms in other areas of the information industry such as communications vendors might be interested, of course.

- Continental Telephone's interest in MAI could be increased by the 8000 series.

  - They may be more interested in Sorbus than Basic Four, however.

  - They also may not have any further interest in MAI, since the option was exercised by MAI in 4/83 to purchase the 1, 288, 300 shares which Continental owned.

- The price that MAI paid to buy 15% of its stock was $22 million.

  - That would put the total value of MAI at $147 million.

  - Some MAI stockholders initiated suit since they felt the profit that Continental made on its stock purchase was too high or questioned this valuation.

- MAI felt that the potential of its revamped Basic Four line was undervalued by the market price for its stock at that time.

- This is still the opinion of MAI and Basic Four executives.
- This feeling is not shared by sources, who invest or plan investment in the computing industry. At present, they would tend to value Basic Four at a fraction of its gross revenue since income is negative or close to zero.

- The acquisition of MAI and sale of Basic Four could be costly in the present scenario.
  - Basic Four could be overvalued by MAI based on the potential of the 8000.
  - Potential purchasers of Basic Four could be reduced in number due to the emphasis on hardware.
  - Offers for Basic Four could be very low.
    - Assets would not bring a high price.
    - Manufacturing plants handle the assembly of subcomponents and components from vendors more than the manufacture of boards. There is no shortage of this type of plant in the industry.

- Two investment sources; who are members of venture capital groups, felt that a positive income period might be used to generate a price of 10 to 15 times earnings for an enterprise like Basic Four.
  - This might be done by cutting costs and rescheduling intracompany cash flows in order to generate a positive quarter.
  - An annualized revenue of $3 to $4 million might lead to a price of $30 million to $60 million.
  - This strategy is dependent on a certain level of sales.

- Rather than acquire MAI and then face the situation described, INPUT would recommend that confidential market research be undertaken first, to assess the appeal of the 8000 series to present customers and prospects in the key industries of Basic Four and potential custoers in other industries.

- In addition, INPUT would recommend that further attention be given to the Sorbus relationship before acquisition of MAI is considered.

- If results of the market research for the 8000 series are negative, this could be used as an argument in negotiating with MAI.

    - It might be used to plan the time when MAI should be contacted as well.

    - It could also be used as an argument for reshaping the image of Basic Four as previously suggested.

- Reshaping the image of Basic Four and generating a position quarter or half year would be advisable as a strategy for selling Basic Four if the 8000 series does not meet expectations.

WORK STATEMENT

September 26, 1983

This Work Statement constitutes a part of the letter agreement dated September 26, 1983 between General Electric Company and INPUT, Inc. (hereinafter referred to as "INPUT") and sets forth the work to be performed by INPUT pursuant to said letter agreement.

INPUT shall conduct a research study as hereinafter set forth, the purpose of which will be to obtain the identified information concerning the Basic Four Division of Management ~~Associates,~~ Assistance Inc.

As a part of the above described research study, INPUT will, under the direction of Jan E. Jertson or his designee, determine the following information; on a best effort basis.

1. Mix of Revenues/Income (Domestic & International)
    - Products
    - Customer Type
    - Hardware vs. Software/Support
    - Recent trends of the above splits
    - Key margin drivers

2. Management
    - Backgrounds
    - Turnover
    - Equity position
    - Compensation levels

3. Sales and Application Support Personnel and Agents (Domestic & International)
    - How many? Where located?
    - Technical training: College, trade school, etc.
    - Recruiting sources: training programs
    - Quality of staff

4. Investments
    - Manufacturing plants
    - Real estate
    - Value to third party

5. Product Line
    - Mix
    - Comparative prices
    - Competitive position by segment
    - Trends
    - Long-term viability

6. Cost Structure
    - Economies of scale
    - Integration
    - Leverage over vendors
    - Competitiveness
    - Hardware vs. software

7. Third Party Software
    - Any particular industry concentration?
    - Third party inducements vs. competition
    - Trends over time
    - Competitiveness

8. R&D
    - Focus
    - Productivity
    - Any hope provided by?

9. Selling Practices
    - Who is the customer's decision maker?
    - How do they reach him?
    - Whom do they call on?
    - How do they sell them?
    - Trends over time and across geographics

10. - A summary of significant strengths and limitations.

INPUT shall perform any and all other work necessary for the preparation of a final written, bound report to be delivered to General Electric Company based on the findings of the study on or before October ~~14~~ 21, 1983. In addition, for a period of thirty (30) days after delivery of this report to it, General Electric Company shall be entitled to consult with INPUT, at no additional cost, concerning the contents of the report.